INFORMAZIONI PERSONALI

Marco Forti

EMPLOYMENT AND EDUCATION

March 2022 – present: Deloitte – Expert

Activity of research aimed to support the construction of methodological framework and the
statistical computation of both qualitative and quantitative data.

November 2021 – February 2022: Tim – Lecturer in "The Statistics of Data Science

Course designed for firm's professionals already operating in quantitative environments
aiming to deepen some theoretical and practical aspects over the following topics:
Elements of Data Science
Descriptive statistics
Probability, distribution theory and inferential statistics
Big-data analysis

2021 – Present: University of Rome 'Sapienza': Researcher

Project developed in association with Italian National Research Center (CNR) and National Institute for Insurance against Accidents at Work (INAIL) aimed to the construction of complex datasets and Machine Learning methods for policy impact evaluation.

November – December 2020: TIM Lecturer in 'Element of statistics

Course designed for firm's professionals already operating in quantitative environment saiming to deepen some theoretical and practical aspects over the following topics:
Descriptive statistics
Probability and distribution theory
Inferential statistics
Big-data analysis

2016 – 2021: University of Rome 'Sapienza' Faculty of Information Engineering, Informatics and Statistics

PhD in Statistics (Methodological Statistics).
Research project over Dynamic Factor Models (DFM) and Bayesian nonparametric estimation of stochastic volatility with application to Financial and Macroeconomic data.
DFM is nowadays one of the most efficient tool to manage big-data. The study of theoretical aspects and empirical computation of DFM compose the baseline of my research project, which was then applied in different environment among which particular weight is given to financial and macroeconomic (Dynamic Stochastic General Equilibrium - DSGE) applications.
In detail the DSGE model I designed, identify an economy that operates in an open market framework. In such an environment, Structural DFM is an estimation technique adopted to bring model to data.
The Italian National Agency for Regional Healthcare Services (AGENAS) is a non-economic public body, which mission is to provide technical and

2018 – 2021: 'Agenas' – Researcher Statistician

scientific support to the Italian NHS carrying out research activities and supporting the Ministry of Health, the Regions and Autonomous Provinces of Trento and Bolzano.
At this Agency, I work at the Research department and at National Program of Evaluation (Programma Nazionale Esiti – PNE) with the role of Statistician. At this role, my duties are to write SAS routines and create statistical models in order to find out evidences over clinical practices and nation-wide health structures.
Research activities may be developed in house or in cooperation with some national and international institutions such as Istituto Superiore di Sanità, OCSE and World Health Organization; those activities see me fully involved me at every stage.

2017 – 2018: SVIMEZ – Economist/Econometrician

SVIMEZ is a private research centre, which supply studies in the field of economics and regional development. Such studies often constitute a benchmark for Italian Parliament and some other major State Institutions.
Study about 2017 Parliament financial budget law: Basic income and its impact over poverty and inequality. (ISBN: 9788815273543 pag. 632, year: 2017, Ed: "Il mulino" - Chap. 6)
Study about 2018 Parliament financial budget law and its impact over poverty, employment and inequality. (ISBN:978-88-15-27989-7, year: 2018, Ed: "Il mulino" - Chap. 6)

2017: Interuniversity school of Mathematics

The aim of the School is to provide young researchers, both from Italy and from abroad, with training in Mathematics and its applications in various sectors, including Physics, Computer Science, Economics and Finance, Engineering and Statistics
At this school, I followed advanced courses in Mathematics:
Partial differential equations
Mathematical statistics

2016 – 2018: Ministries' Office (Presidenza del Consiglio dei Ministri) – Ministry of Health – Statistician

Information department of the Ministry of Health is part of the National Statistics System and responsible for the collection and elaboration of data regarding Italian health system. At this office, I am responsible for the collection of raw data, creation of new indexes and computation of statistics. Project evaluation is among my duties as well.
In this context, I elaborated statistics for what concerns Education, Transports, Production systems, etc. paying specific attention to country's "inner areas" (aree interne) – part of the territory which, for geographic or other reasons, is not easily reachable and missing in some basic services. Formulation of ad hoc solutions and policies is still part of my tasks.
Many of the indicators I worked on needed to be traced to the ones declared by EU in the Partnership Agreement, the harmonisation of such indicators and the set-up for the ex-post policy evaluation is a core part of my duties. Such project have been designed by "Presidenza del Consiglio dei Ministry" (Presidency of the Council of Ministers) to which office I directly reported.

2016 – 2017: KPMG International – Econometrician modeler

Responsible for the quantitative analysis and modeling.
In this position, I am committed in designing economic models, collecting and analyzing data, doing simulations and running statistical tests.
Last project: study commissioned by AECM (European Association of

guarantee institutions) which object of investigation was the impact of changes in guarantee institutions to the macro variables at both national and EU level.

2014 – 2016: CER – Econometrician/Economist

CER (Centro Europa Ricerche) is a private research center which work in the field of economics providing periodic and ad hoc analysis over: Italian and foreign conjuncture, quantitative evaluation of public policies, public finance, monetary policy, econometric modeling and macrosimulations, previdential policy, banks, etc.
In this firm, I worked as economist and statistician participating to every firm's working and organizational activity.

205 – 2016: University Sant'Anna of Pisa – Research fellow

In the above-mentioned period, I worked on original researches over:
Quantitative easing
Public finance
Competitiveness of capital and wage
EU policy
Economic growth
Teaching assistance in Economics and International Economics

2014: Bank of Italy

"Highly Worthy" ("Particolarmente meritevole") at the selection announced by Bank of Italy for the Mortara scholarship aimed to perfect Mathematics, Statistics and Econometrics methodologies.
Presentation of two research projects to Bank of Italy research centre commission
Macroeconomic effects of "misaligned" currencies: a model-based quantification
The project aims at taking the model to data, in order to quantify the effects of an
undervalued/overvalued currency on employment, real GDP and welfare.
A quantitative business cycle model with financial intermediation and financial frictions
Financial frictions may affect non-financial entrepreneurs, credit-constrained households, and financial intermediaries. Then the structural parameters of the model have been estimated using Bayesian methods. Given prior distributions of the parameters, posterior distributions have been drawn using the Metropolis-Hastings algorithm.

2014 – 2015: University opf Rome 'sapienza' Faculty of Statistics

Frequency of selected courses and workshops:
Computational statistics
Multivariate inference
Bayesian methods
Stochastic methods
Capture-recapture models
Spatial statistics

2013 – 2016: Einaudi Institute for Economics and Finance (EIEF)

Selected courses and workshops:
Latent variables and finite mixture models
Capture recapture models
Job market models

Topics in VAR modelling
EM algorithm and ML estimation of mixture models

2013: University of Rome 'Sapienza' Faculty of Economics

MSc in Economics - applied economic and financial analysis – with area of expertise in Econometrics and dynamic macroeconomics. Dissertation in time series econometrics, overall mark: 110/110
Original research on labor market participation in a RBC model - drawing of a new model, Estimation, Calibration, DSGE, theoretical and empirical Impulse Response Functions (IRF), counterfactual prove using S-VECM techniques, Minimum Distance evaluation.
Scientific literature review – main areas of interest was: exchange rate, international money and finance, game theory with particular attention paid to the implication for Central Banks policies
Optimization techniques applied both in financial (risk analysis and forecasting) and real market environment (price and logistics)
In depth study of econometrics, time series econometrics, statistics and probability (Queuing theory and Markov chains between the others), economics, mathematics.
Class reporting over the speed of convergence in neoclassical models – literature review and empirical relevancies.
Working paper on exchange rate estimation model BEER (Behavioral Equilibrium Exchange Rate) – Structural VECM based model.
Working paper based on a monetary shock transmission model (Vlaar 2003) – counterfactual prove to the model.

2009 – 2011: Rome consulting: Analyst

Expenditure and earning forecast for existing and new opening enterprises

2007 – 2008: University of Edinburgh – visiting studend at Scottish Graduate Program in Economics

Core courses in Microeconomics, Macroeconomics and Quantitative Methods – In depth study of price theory, game theory, Neoclassic and New Keynesian macroeconomic models, OLS, GLS, Nested models, cointegration and causality, basic knowledge of asymptotic theory and panel data.
Optional courses in Asset pricing, International Money and Finance, Transition economics – CAPM and other basic financial econometrics models, exchange rate determination models, open market macroeconomic models, empirical finding on transition mechanism on emerging countries.
Empirical econometric project on structural break determination

2007: University of Rome 'Sapienza' – Faculty of Economics

Acquisition of the basic concept in economics, statistics and mathematics
Dissertation title "NATREX and PPP in Chinese exchange rate determination"
Courses in economics, statistics, mathematics, Languages, law, etc.

OTHER QUALIFICATIONS AND DEGREE

PhD in Statistics (Methodological Statistics) - University of Rome "Sapienza" – Faculty of Information Engineering, Informatics, and Statistics

Commendation by the General Director of AGENAS for the "competence and the professionality expressed" in the sphere of the activities that brought to the publication of 2019 edition of National Program of Evaluation (Programma Nazionale Esiti)
Advanced Bayesian time series at Barcelona GSE - University Pompeu Fabra National Institute of Health (Istituto Superiore di Sanità) course over "clinical assessment evaluation" ("La valutazione degli esiti nella pratica clinica corrente").
"Highly Worthy" ("Particolarmente meritevole") at the selection announced by **Bank of Italy** for the **Mortara** scholarship aimed to perfect Mathematics, Statistics and Econometrics methodologies.
Postgraduate Degree (Advanced Econometrics) - Applied economic and financial analysis
University of Rome "Sapienza" (110/110) 2009–2013 (part-time)
Merit-based scholarship for the whole MSc course period
Italian mother tongue
Very good knowledge of both written and spoken English
IELTS proficiency test (summer 2007)
Basic knowledge of Chinese (Mandarin) both spoken and written (Simplified and non-simplified characters)
HSK first level test (May 2007)
Discrete Knowledge of Spanish both written and spoken
University exams
Visiting Student (Scottish Graduate Program in Economics)
University of Edinburgh 2007-2008 (full time)
Bachelor of Economics (International economics and development)
University of Rome "Sapienza" (98/110): 2000-2007 (part-time)
Merit-based scholarship for the whole BSc course period
Secondary school completed in 2000
Scientific High School Sandro Pertini, Cerveteri (Rome)

SKILLS

Lingua madre

Advanced knowledge of **Statistics**, **Econometrics** and **Time Series Analysis** (**Dynamic Factor Models**, **Stochastic Volatility** models, **Structural VAR\VECM**, etc.).
Knowledge of **Bayesian methods\Bayesian Time Series,** both **parametric** and **non-parametric,** with numerical simulation methods (**MCMC, Metropolis- Hasting, Gibbs**) and applications.
Solid knowledge of Economics and **Dynamic Macroeconomics** as area of expertise (model designing and solving, **DSGE** simulation, Calibration, IRF, etc.)
Knowledge of **Machine Learning, Cluster Analysis, Survival analysis** and **risk analysis.**
Experience in **data analysis**, **data mining** within big dataset environment and ad hoc report elaboration over different themes, both for public and

private institutions.
Macrosimulation models for economic forecast: construction, testing and maintenance. Experience in the analysis of Italian and international **conjuncture** and ad hoc macroeconomic **scenarios** and **forecasts**.
Policy analysis and **evaluation** its effect in both Italian and international environment
Understanding of financial time series model (ARMA, ARIMA, Stochastic Volatility, ARCH, GARCH, etc.), **Time Series Clustering** is an actual field of study.
Project management: experience acquired both in academic and private research environment. Solid knowledge and experience of programming in numerical languages as **SAS**, **R and R-Studio**, **Matlab** and its application for dynamic macroeconomics **Dynare**.
Good understanding and experience in using some econometric\statistical program (**E-Views**, **JMulti**, **S-VAR**, **Gretl, SPSS**)
Working knowledge of the programs for scientific writing and editing **Latex**
Good presentation skills and experience in creation of educational and training material
Organized with good attention to detail
Experience with people management

PUBLICATIONS

"Relationship between hospital volumes and health outcomes: epidemiological evidence supporting the revision process of the Ministry of Health Decree no. 70 of 2
April 2015" - Recenti Progressi in Medicina - 2022;113(2):114-122,
DOI 10.1701/3748.37315

"Impact of gender on 10-Year outcomes after coronary artery bypass grafting" - Interactive CardioVascular and Thoracic Surgery – EURHEARTJ-D-20-05281,
doi:10.1093/icvts/ivab125

PRIORITY (PRedIct long term Outcomes afteR Isolated coronary arTery bypass surgery) calculator: https://www.outcomeresearch.it/PRIORITY/

National Program of Evaluation (2021) - the complete set of statistics and indicators published in: https://pne.agenas.it/

Lo studio PRIORITY – "PredictIng long-term outcomes after isolated coronary artery
bypass surgery" – Giornale Italiano di Cardiologia (2021 Vol. 22 N. 1 Gennaio - ISSN:1827-6806)

"Indicatori PNE: ieri, oggi e domain" – MONITOR - ISSN:2282-5975 vol. 1/2020

"Trends in mortality and heart failure after acute myocardial infarction in Italy from 2007 to 2017" – Poster exposed at 16th World congress on Public Health

"Bilateral internal thoracic artery grafting in coronary surgery: 10-year outcomes" –
Presented at 16th World congress on Public Health

"Health performance evaluation of the Italian hospital care system" – Poster exposed at 16th World congress on Public Health

"Hospital management of patients with acute coronary syndrome: influence of age and gender" – Poster exposed at 16th World congress on Public Health

National Program of Evaluation (2020) - the complete set of statistics and indicators published in: https://pne.agenas.it/

"Long-term outcome after off-pump coronary artery bypass grafting: implication for public health" – Poster exposed at 16th World congress on Public Health

National Program of Evaluation (2019) - the complete set of statistics and indicators published in: https://pne.agenas.it/

Study about 2018 Parliament financial budget law and its impact over poverty, employment and inequality. (ISBN:978-88-15-27989-7, year: 2018, Ed: "Il mulino" - Chap. 6)

Study about 2017 Parliament financial budget law: Basic income and its impact over poverty and inequality. (ISBN: 9788815273543 pag. 632, year: 2017, Ed: "Il mulino" - Chap. 6)

"The impact of the oil price over Italian economy: a structural-VAR analysis", Chapter in International conjuncture report 2014 – CER.

Rapporto Europa 2015: Capital and wage competitiveness of EU and non-EU
▪ countries, Monetary policy and quantitative easing, etc. With S. Collignon

NOTE

Only the most recent and relevant work and academic experiences was reported in this CV

INTERESTS AND HOBBIES

Music – collecting, sharing, exploring
Sport – Following and practicing various sports with a remarkable personal experience in swimming
Reading
Traveling – languages, food and beverage and popular culture
People

Dati personali

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".

Data f.to Marco Forti